

Cancer Brief

What is Cancer?

Cancer is a term used to describe a group of diseases that cause the uncontrolled growth, invasion, and spread (metastasis) of abnormal cells. Cancer is caused by external factors such as environmental conditions, radiation, infectious organisms, poor diet and lack of exercise, and tobacco use, as well as internal factors such as genetics, mutations and hormones.

Risk Factors for Cancer

Demographic Risk Factors

- *Age*
 - 77% of all cancers are diagnosed in individuals 55 and older.¹
- *Genetics and Family History*
 - About 5% of all cancers are strongly hereditary.¹
 - Individuals with family members who have had cancer have a higher risk for cancer.²
- *Race/Ethnicity*
 - Different types of cancer are more likely to occur based on race/ethnicity.
- *Gender*
 - Although some cancers are only seen in men (prostate cancer), or women (uterine, ovarian, or cervical cancer), some cancers are more likely to occur in men or in women.

Social and Behavioral Risk Factors

- *Tobacco use*
 - Lung cancer is the leading cause of cancer death among both men and women in the United States.³
 - The American Cancer Society estimates 170,000 cancer deaths in 2008 will be the result of tobacco use.¹
 - Male smokers are about 23 times more likely to develop lung cancer than male nonsmokers.¹
 - Those who chew tobacco risk contracting lip, tongue, palate, and pharynx cancers.⁴
 - Smokers face increased risks of death from cancer, particularly lung cancer.⁴
 - Cigarette smoking causes 87% of lung cancer deaths in the United States.⁵
 - The risk of developing smoking-related cancers increases with total lifetime exposure to cigarette smoke.⁵
 - Nonsmokers who are exposed to secondhand smoke at home or in the workplace increase their risk of developing lung cancer by 20-30%.³
 - Secondhand smoke causes approximately 3,400 lung cancer deaths among nonsmokers in the United States each year.³
- *Nutrition and Obesity*
 - Up to 30% of cancers in developed countries may be related to poor nutrition.⁶

- Consumption of red and processed meat is positively associated with colorectal cancer and probably with stomach cancer.⁷
- Obesity is associated with decreased breast cancer screening among American white women.⁸
- *Alcohol Abuse*
 - High alcohol intake increases the risk of colorectal and breast cancers.⁷
- *Environmental Risks*
 - Most (65% to 90%) melanomas, the most serious form of skin cancers, are due to exposure to ultraviolet (UV) light or to sunlight.⁹
 - Pollution of air, water, and soil account for between 1 and 4% of all cancers in developed nations.⁶
 - Cancer can be caused by exposure to radon gas, asbestos, silica and other materials.²
 - Infectious agents account for 18% of cancers worldwide.⁶ Human papillomavirus, hepatitis B virus, and *Helicobacter pylori* bacterium account for the largest number of cancers due to infections.⁶

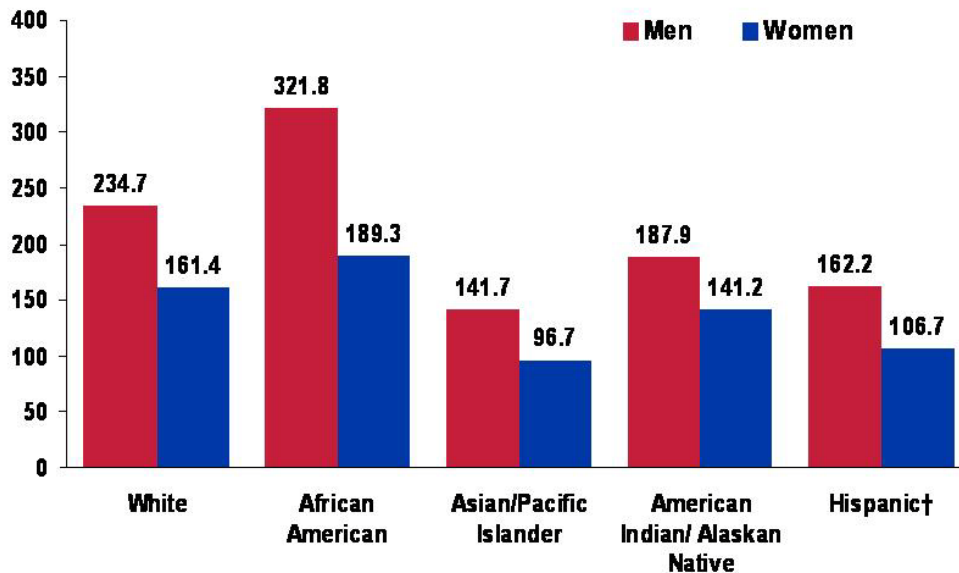
National Statistics and Disparities

Statistics

- In January of 2004, an estimated 20.8 million Americans had a history of cancer.¹
- Cancer is the second leading cause of death, after heart disease, in the United States.¹⁰
- Nationally, cancer was the cause of death for nearly one-quarter (22%) of all deaths in 2005.¹

Disparities

Cancer Death Rates* by Race and Ethnicity, US, 2000-2004



*Per 100,000, age-adjusted to the 2000 US standard population.

† Persons of Hispanic origin may be of any race.

Source: Surveillance, Epidemiology, and End Results Program, 1975-2004, Division of Cancer Control and Population Sciences, National Cancer Institute, 2007.

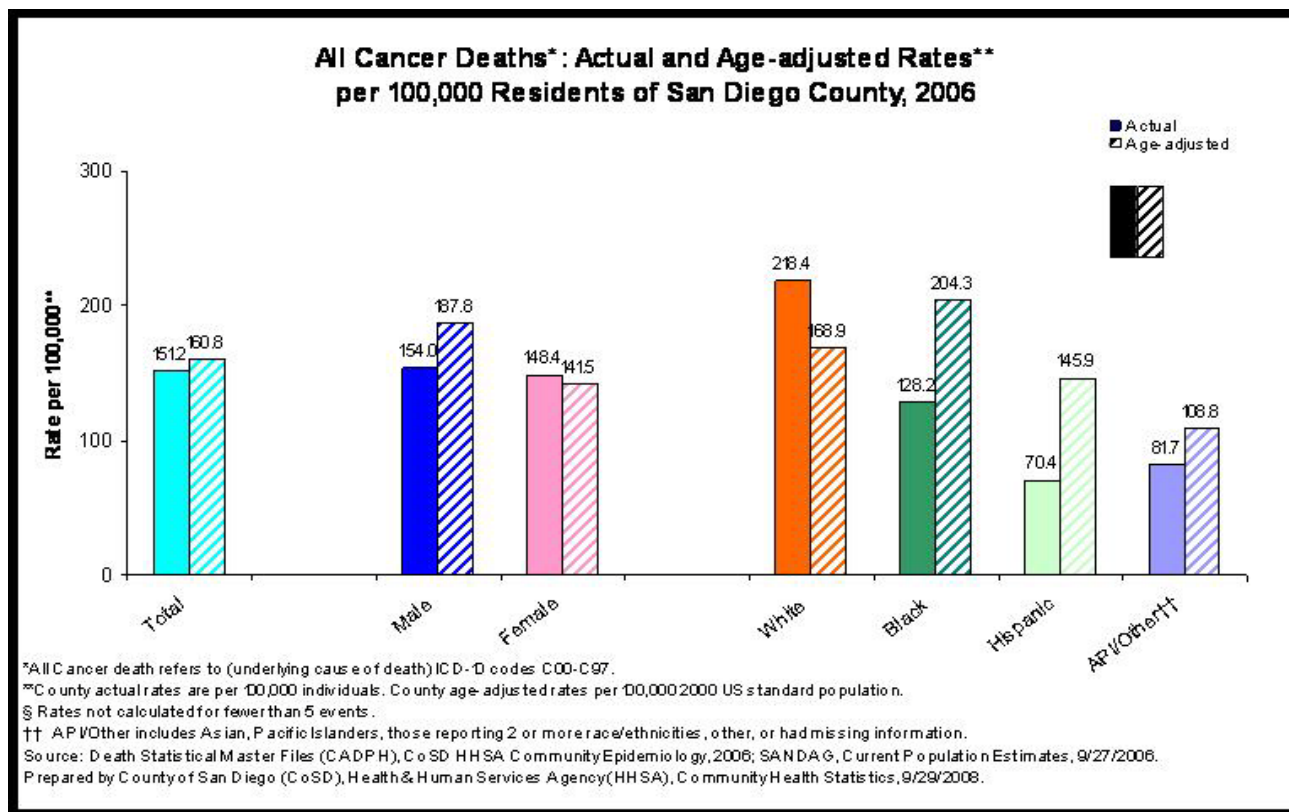
- In the United States, men have approximately a 1 in 2 lifetime risk of developing cancer, while women have a 1 in 3 lifetime risk. Lifetime risk is the probability that an individual, over the course of a lifetime, will develop and/or die from cancer.¹
- Black Americans have the highest death rates for the most common types of cancer.¹¹
- Black men have the highest incidence rate for prostate cancer in the United States, and are more than twice as likely as white men to die of the disease.¹¹
- White women have the highest incidence of breast cancer, but Black women are more likely to die from the disease.¹¹

Cost

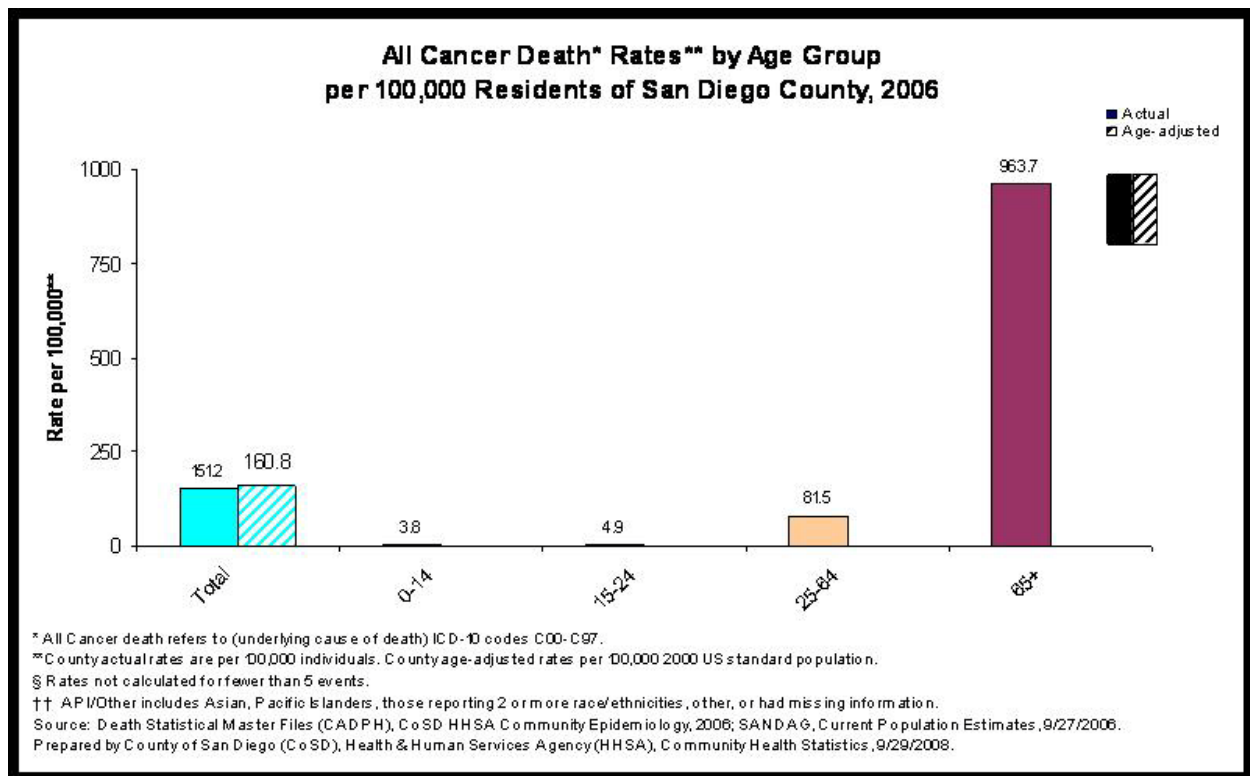
- In 2007, cancer cost the United States an estimated \$219 billion: \$89 billion in direct medical costs, and nearly \$130 billion for lost productivity (indirect).²

Local Statistics and Disparities

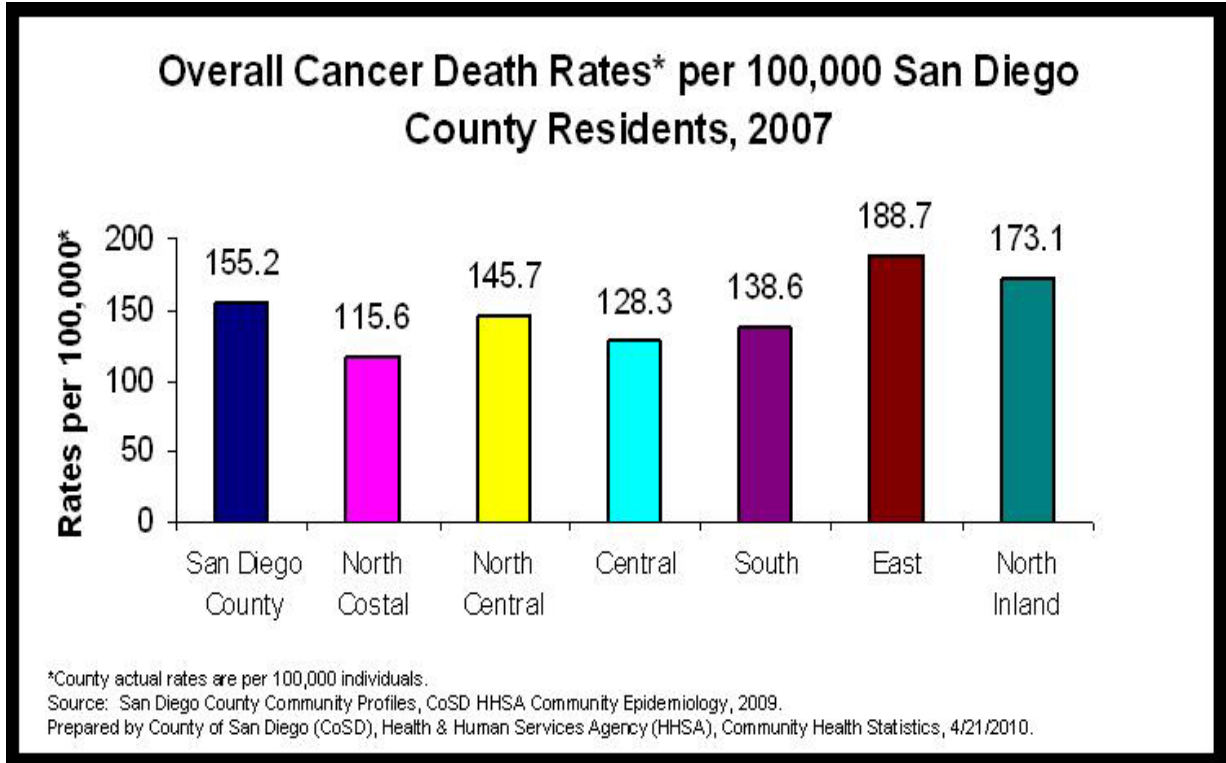
- As of 2005, about 10% of San Diego County residents had ever been diagnosed with cancer.¹²



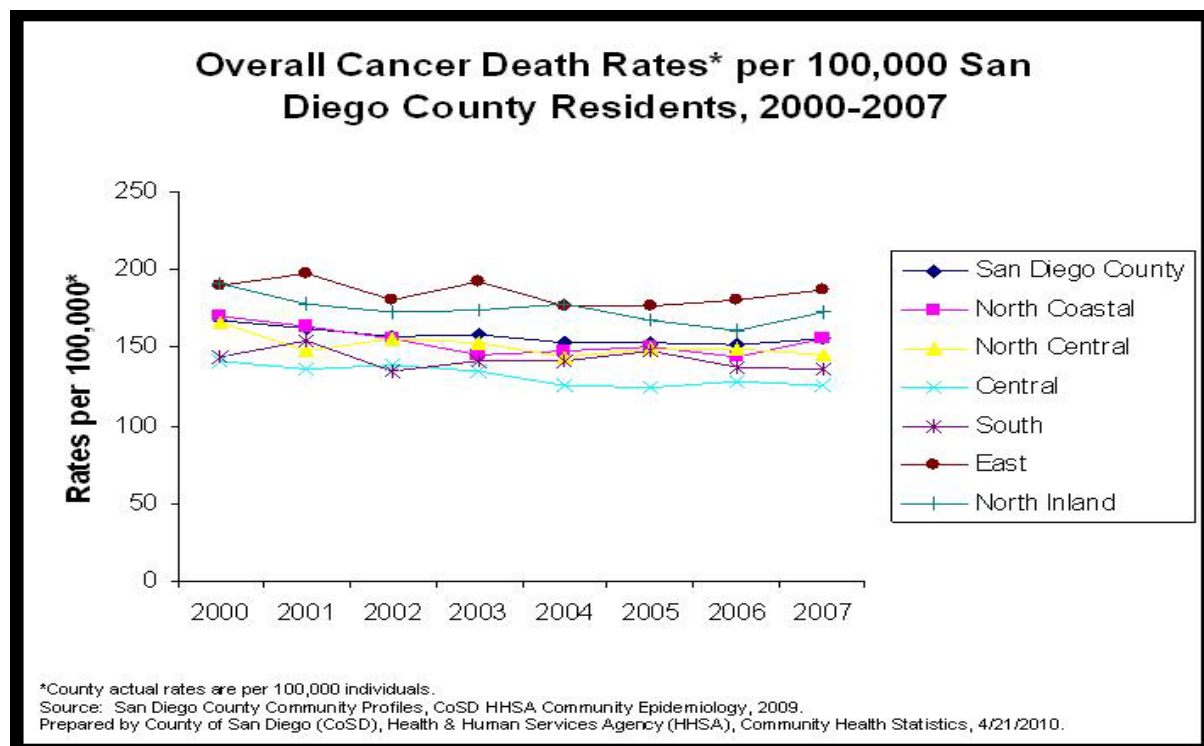
- The age-adjusted all-cancer death rate among residents of San Diego County was 160.8 per 100,000 in 2006.
- Men had a higher death rate than women (187.8 per 100,000 versus 141.5 per 100,000).
- Blacks had the highest cancer death rate (204.3 per 100,000), nearly twice as high as Asian-Pacific Islanders (108.8 per 100,000).¹³



- The cancer death rate among residents aged 65 years and older was 963.7 per 100,000, approximately 12 times the death rate for residents aged 25-64 years.¹³



- In 2007, the East region of San Diego County had the highest rate of overall cancer deaths.
- In 2007, the North Coastal region had the lowest rate of overall cancer deaths and was lower than the county-wide cancer death rate.



- From 2000-2007, the East and North Inland regions of San Diego County had the highest overall cancer death rates.

Cancer and Its Complications: Prevention for Individuals

- Early Detection and Screening Programs*
 - Mammograms
 - A mammogram performed every one to two years for women aged 40 years and over can reduce mortality by about 20-25% during a 10 year period.¹⁴
 - In 2005, 26.1% of women in San Diego County over the age of 30 had never had a mammogram.¹²
 - Colorectal Cancer Screening
 - There are several tests for colorectal cancer; having one or more of them annually after the age of 50 increases the chance that cancers will be discovered early while they are more easily treated.²
 - In 2007, 25% of San Diego County residents over the age of 50 had never had a colonoscopy, sigmoidoscopy or fecal occult blood test.¹²
 - Pap Test
 - Cervical cancer death rates can drop by 20-60% after screening programs begin.¹⁴
 - Regular doctor visits can help determine the recommended frequency for cervical cancer screening
- Abstain from Tobacco Use*

- The longer the duration and higher the level of exposure to tobacco smoke, the greater the risk of developing lung cancer.³
- *Protect Skin From the Sun*
 - It is recommended to use sunscreen with at least SPF 15 from the hours 10 a.m. to 4 p.m. during daylight savings time (9 a.m. – 3 p.m. during standard time) when UV exposure is the most hazardous in the United States.⁹
- *Cancer Vaccines*
 - The number of new cervical cancer cases can be reduced with the human papilloma virus vaccine, which targets the viruses causing 70% of cervical cancers.²
- *Maintain a Healthy Diet and Get Regular Physical Activity*
 - Consumption of nutritious foods is negatively associated with cancer of the lung and stomach.⁷

Prevention Tools for Public Health Professionals: Cancer Critical Pathway

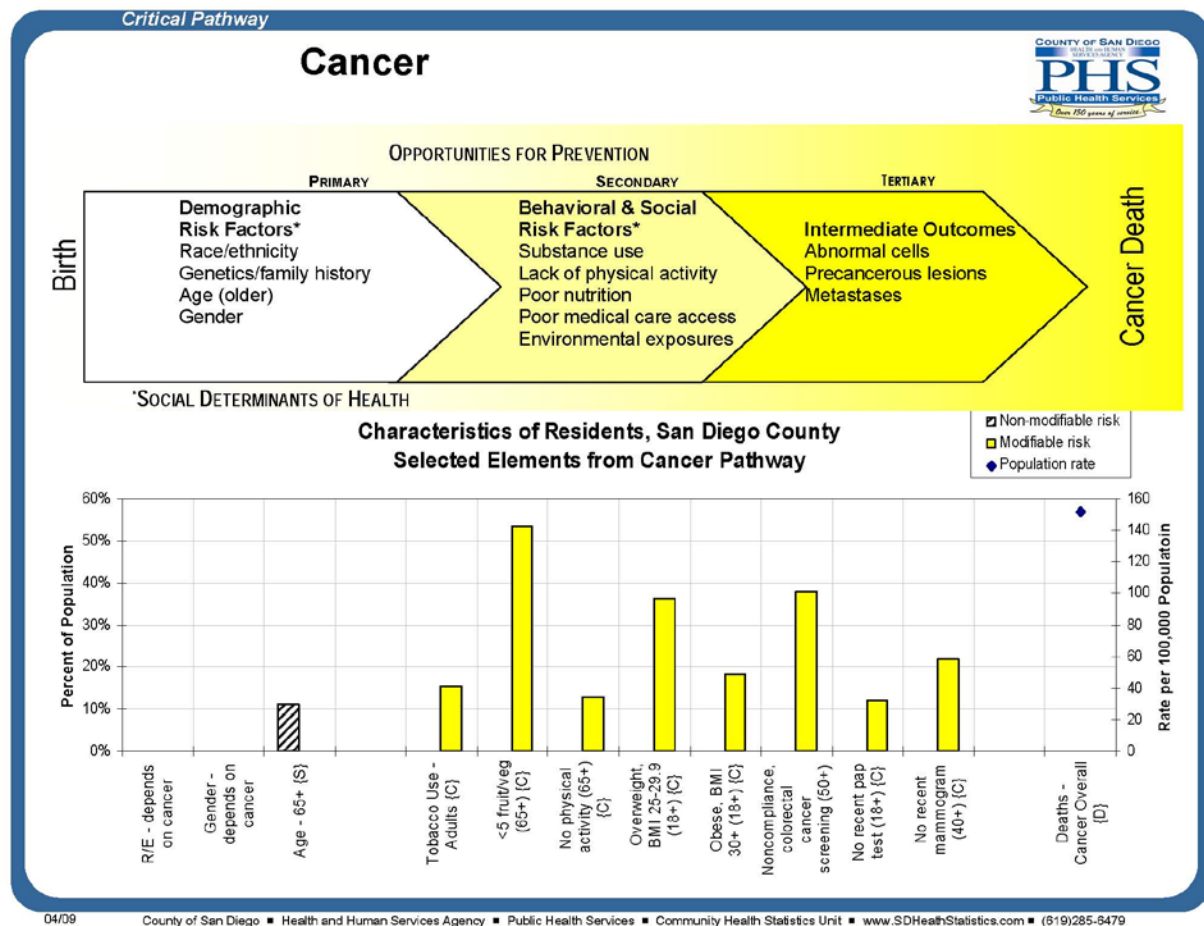
There are many opportunities for public health professionals in the community to help reduce the risk of cancer and to improve the health outcomes of individuals who already have the disease. To assist in community health efforts, a *Cancer Critical Pathway* was developed.

The *Cancer Critical Pathway* is a tool to be used in health promotion and disease prevention efforts. Its purpose is to identify populations at greater risk for cancer, and to identify prevention and early intervention opportunities. The *Cancer Critical Pathway* displays a diagram of the major risk factors and intermediate outcomes or related diseases that have an impact on, or result from, cancer. Risk factors are marked as non-modifiable (black striped bars) such as race/ethnicity or gender and modifiable (solid colored bars) such as physical activity or high blood pressure.

Beneath the risk factors diagram is a data grid describing the San Diego resident population in relation to selected elements of the pathway. The data grid is designed to assist in quick identification of opportunities for interventions that might have a high impact on a particular disease. The data represent all San Diegans, not only those with a particular disease. The left axis (bar) indicates the percent of the population with a known risk factor or intermediate outcome. The right axis (diamond) indicates the rate of a particular medical encounter within the population that is specified. The data are described fully in the complete version of the *Critical Pathways*.¹⁵

In addition, the Community Health Statistics Unit website (www.SDHealthStatistics.com) provides detailed demographic, health and facility data including maps of geographically formatted health data. Also available are links to other County data sources, state and national sites of interest. For further assistance with data or interpretation, please contact the Community Health Statistics Unit.

Cancer Critical Pathway to Disease.



Data Sources

¹ American Cancer Society. Cancer Facts and Figures 2008. Atlanta, GA: American Cancer Society; 2008.

² http://www.cancer.org/docroot/STT/stt_0_2008.asp?sitearea=STT&level=1. Accessed April 30, 2010.

³ National Cancer Institute. What You Need to Know about Cancer-an Overview.

<http://www.cancer.gov/cancertopics/wyntk/overview/page4>. Accessed April 30, 2010.

⁴ Centers for Disease Control and Prevention. Smoking & Tobacco Use: Fact Sheet. Secondhand Smoke Causes Lung Cancer. Department of Health and Human Services.

http://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/health_effects/index.htm#lung Last updated January 12, 2010. Accessed April 30, 2010.

⁵ Mackay J, Eriksen M, Shafey O. *The Tobacco Atlas*, 3rd Edition. American Cancer Society. 2009, Atlanta, GA.

⁶ National Cancer Institute. Cigarette Smoking and Cancer: Questions and Answers. U.S. National Institutes of Health. 2004.

⁷ Mackay J, Jemal A, Lee NC, Parkin DM. *The Global Cancer Atlas Online*. American Cancer Society. 2006, Atlanta, GA.

⁸ Gonzalez C. Nutrition and cancer: the current epidemiological evidence. *The British Journal of Nutrition*. August 2006;96 Suppl 1:S42-5.

⁹ Cohen S, Palmieri R, Nyante S, Koralek D, Sim S, Bradshaw P, et al. (2008). Obesity and screening for breast, cervical, and colorectal cancer in women: a review. *Cancer*, 112, 1892-1904.

¹⁰ Centers for Disease Control and Prevention. Skin Cancer. Skin Cancer Statistics. <http://www.cdc.gov/cancer/skin/statistics/>. Last updated March 12, 2020. Accessed April 30, 2010.

¹¹ Centers for Disease Control and Prevention. (2009). Cancer – Addressing the Cancer Burden, at a Glance, 2010.

<http://www.cdc.gov/nccdphp/publications/aag/dcpc.htm>. Last updated March 8, 2010. Accessed April 30, 2010.

¹² National Cancer Institute. Cancer Health Disparities FactSheet. <http://www.cancer.gov/cancertopics/factsheet/cancer-health-disparities/disparities>. Last updated March 11, 2008. Accessed April 30, 2010.

¹³ AskCHIS. California Health Interview Survey. 2005. University of California, Los Angeles, Center for Health Policy Research. Los Angeles, CA. 2005.

¹³ Death Statistical Master Files (CADPH), CoSD HHSA Community Epidemiology, 2006; SANDAG, Current Population Estimates, 9/27/2006. Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHSA), Community Health Statistics, 9/29/2008.

¹⁴ Centers for Disease Control and Prevention. Preventing Chronic Diseases: Investing Wisely in Health. U.S. Department of Health and Human Services. CDC: Chronic Disease Prevention. 2008.

¹⁵ County of San Diego Health and Human Services Agency, Public Health Services. Community Health Statistics Unit. (2009). Critical Pathways: the Disease Continuum, Coronary Heart Disease. April, 2009.

<http://www.sdcountry.ca.gov/hhsa/programs/phs/documents/CHS-CriticalPathwaysofDisease7-3-09.pdf> Critical Pathways. Accessed July 16, 2009.